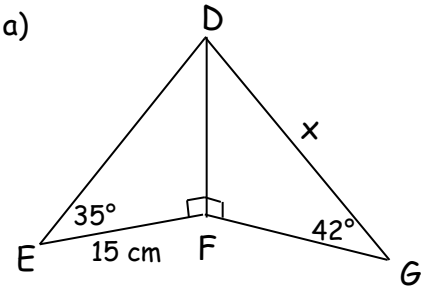
MPM 2D1 Name: _____

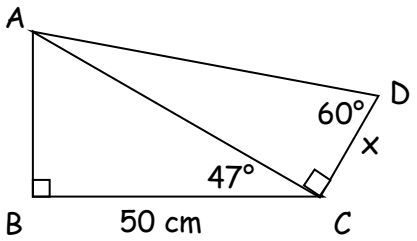
Multi Triangle Trigonometry Applications

1. Find the unknown value in each diagram.

a)



b)



2. From a point 150 m from the base of a building, the angle of elevation to the top of the building is 46°. If the angle of elevation to the top of a flagpole on top of the building is 48°, find the height of the flagpole. Assume the flagpole is near the edge of the building.

3. From the top of a 35 m cliff, two boats in the same line of sight are observed with angles of depression of 8° and 14°. How far apart are the two boats?

4. The Golden Gate Bridge was built at a height of 300 m over San Francisco Bay. From the ends of the bridge, the angles of depression to a tugboat in the middle of the river are 25° and 32° respectively. Find the length of the bridge.

5. From the roof of a building, the angle of elevation to a nearby building is 13°, and the angle of depression to the base of the same nearby building is 41°. If the two buildings are 60 m apart, determine their heights.